FAA-E-2308
August 24, 1967

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION SPECIFICATION

CONSOLE, AIR/GROUND, LOW PROFILE, MODULAR

1. SCOPE

1.1 Scope.- The equipment specified herein is a modular built-up console made up of the fabricated steel sub-assemblies, which can be assembled into various configurations and be adaptable and suitable for installation into any selected facility. The intent of this specification is to set forth minimum requirements under which FAA can procure high quality, commercially available, low profile modular consoles which meet the requirements of the FAA service.

2. APPLICABLE DOCUMENTS

2.1 FAA standard.- The following FAA standard, of the issue specified in the invitation for bids or request for proposals, forms a part of this specification.

FAA-STD-001 Color and Texture of Finishes for National Airspace Systems Equipment.

2.2 Military publications.- The following Military publications, of the issue in effect on the date of the invitation for bids or request for proposals, form a part of this specification and are applicable to the extent specified herein.

2.2.1 Military specification

MIL-P-116E Preservation, Methods of

2.2.2 Military standard

MIL-STD-129D Marking for Shipment and Storage

2.3 Electronic Industries Association Standard.- The following publication, of the issue in effect on the date of the invitation for bids or request for proposals, forms a part of this specification and is applicable to the extent specified herein.

RD-310 Rack, Panels and Associated Equipment

(Copies of this specification and other applicable FAA documents may be obtained from Federal Aviation Administration, Washington, D. C. 20590, ATTN: Contracting Officer. Requests should fully identify material desired, i.e., specification and amendment numbers and dates. Request should cite the invitation for bids, request for proposals, or the contract involved, or other use to be made of the requested material.)

(Single copies of Military specifications and standards may be obtained from Federal Aviation Administration, Washington, D. C. 20590, ATTN: Contracting Officer. Requests should cite the invitation for bids, request for proposals, or contract for which the material is needed. Mail requests, if found acceptable, will be forwarded to a Military supply depot for filling; hence, ample time should be allowed.)

(Copies of Electronic Industries Association Standards may be obtained from the Association Office, 2001 Eye Street, N. W., Washington, D. C. 20006.)

3. REQUIREMENTS

3.1 Console.- Each console assembly shall be made up from prefabricated steel sub-assemblies and accessories, of modular concept, having the main and required characteristics as herein specified. The basic assembly consists of the following sub-assemblies and components: A base enclosure frame and turret with front panel or door, top and rear panels, and a shelf. Each installation will require at the ends of a row of consoles a right and left end panel for the base enclosure, the turret, and the shelf. A range of dimensions is specified herein for the console frames; the exact height, width and length will be specified in the invitation to bid or contract.

3.1.1 Base enclosure frame.- The overall height of the frame shall be limited to 29-30 inches. All panel mounting holes shall be in accordance with Electronic Industries Association Standard RD-310 dimensions. Frames shall have the capability of being joined side by side, front to back, back to back or one on top of another. Vertical panel mounting angles on the frames four corners shall be recessible in increments of 1 3/4 inches. Structural elements, including cross-ties and struts, shall be not less than 16 gauge cold rolled steel (CRS). Side panels shall be removable, so that any number of frames may be bolted side by side. Top, bottom, front and rear panel mounting areas shall be open with no cross braces or obstructions. Front and rear vertical panel spaces shall be 21 inches in height. The enclosure frame shall be provided with support arms, recessed brackets, or adapters so as to support a work-writing frame and top. Over-all dimensions of the enclosure frames without enclosure panels shall be within the following ranges: height 29-30 inches, width 21-22 inches, depth 18-22 inches. All openings on front, top and rear of rack cabinets must allow the use of standard 19-inch width communication panels and height of openings must be increments of 1 3/4 inches as specified by EIA standards for vertical relay racks. All panel mounting holes shall be drilled and tapped for #10-32 screws or provided with spring steel nuts and sheet metal screws.

3.1.2 Turret enclosure frame.- Turret enclosure frame panel mounting angle and cross ties shall be 16 gauge minimum CRS. Frame shall provide modular adaptability for mounting on top of equipment enclosure frames. Frame dimensions shall be within the following range: width 21-22 inches, height 14 inches. Front panel opening space shall be 19 inches wide and not less than 17 1/2 inches high to allow the use of standard 19 inch width communication panels. Height openings must be in increments of 1 3/4 inches as specified by EIA standards. The front of turret shall be sloped within the range of 30 to 60 degrees. The rear of the turret shall be a vertical extension of the base cabinet. All holes in frame parts, except side panel mounting holes, are to be punched for type "A" sheet metal screws and spring steel nuts or drilled and tapped for #10-32 screws as a minimum. The side panel mounting holes shall be compatible with the side panel mounting studs. Each frame and turret assembly shall be shipped with twenty-four each 1/4-20 inch cap screws, nuts and washers to join frames and turrets side by side and 50 each sheet metal screws and spring steel nuts or 50 each machine screws.

3.1.3 Special adapter panels.- Special adapter panels shall be furnished when specified in the invitation to bid or contract. These special panel mounting brackets shall be fabricated of CRS to the dimensions shown on the drawings. The mounting holes shall be placed as shown in the drawing and threaded for #10-32 screws. The special adapter panels shall provide for the equipment to be flush with the surface when installed in the mounting brackets.

3.1.3.1 Four channel adapter panel.- The four channel adapter panels shall be in accordance with drawing D-40030-32-A. The quantities shall be as specified in the contract. Each adapter panel shall be complete with two (2) size 3 blank panels, and one (1) size 2 blank panel installed in the special adapter panel. A minimum of 10 extra #10-32 mounting screws shall be furnished per panel.

3.1.3.2 Eight channel adapter panel.- The eight channel adapter panels shall be in accordance with Figure 1. The quantities shall be as specified in the contract. Each adapter panel shall be complete with two (2) size 1 blank panels, one (1) size 2 blank panel, and two (2) size 3 blank panels installed in the adapter panel. A minimum of 20 extra #10-32 mounting screws shall be furnished with each adapter panel.

3.1.3.3 Blank panels.- The blank panels shall be of 3/16 aluminum. Each blank panel shall be provided with four mounting holes located 15/64 inch from the adjacent edges. The holes shall be drilled and counter sunk for clearance of #10-32 F. H. machine screws. The blank panels shall be in three sizes and in accordance with Figure 1 and the following dimensions:

Size 1 3 31/32 inches wide by 1 31/32 inches high. The four mounting holes shall be spaced 3 1/2 inches between centers along the top and bottom edges and 1 1/2 inches between centers along each side.

Size 2 3 31/32 inches wide by 4 31/32 inches high. The four mounting holes shall be spaced 3 1/2 inches between centers along the top and bottom and 4 1/2 inches between centers along each side.

Size 3 1 31/32 inches wide by 4 31/32 inches high. The four mounting holes shall be spaced 1 1/2 inches between centers along the top and bottom and 4 1/2 inches between centers along each side.

3.1.4 Work writing shelf.- The work writing shelf shall be attached to the enclosure frames by means of support arms or adapter panels, support base, brackets and mounting angles. The shelf shall support a uniformly distributed load of not less than 200 pounds. Top shall be first quality, laminated plastic bonded to exterior plywood, and be resistant to abrasion, heat, acids, and alkalines. Over all depth shall not exceed 19 1/2 inches. The number of single frame or a dual frame shelves shall be provided as specified in the contractual documents.

3.1.5 Ball cornered side panels.- Ball cornered side panels shall be provided in the quantities as specified in the contractual documents for use with the work-writing shelf (paragraph 3.1.4). They shall be constructed of 16 gauge CRS. Each panel shall be furnished with a complete hardware kit, having all the required fastening devices.

3.1.6 Flush mounted doors.- Plain flush mounted door(s) is to be provided and mounted on the front panel opening of the enclosure frames; the hinges shall permit removal of the door. A left hinged door shall be provided with rollercatch type latches and door handle.

3.1.7 Ball cornered frame side panels.- Ball cornered side panels shall be provided as specified in the contractual document for use with individual equipment enclosure frames. Construction shall be of not less than 16 gauge cold rolled steel. Top corners shall have a ball shape. Panels are to be attached to frames by the use of studs with collars to prevent the collapsing of the panel when the nuts are turned down.

3.1.8 Turret flat side panels.- Right and left hand turret flat side panels shall be provided in quantities as specified in the contractual documents for use with the turret enclosure frame. Panels shall be provided with mounting studs and made of 16 gauge CRS as a minimum.

3.1.9 Formed plain enclosure panels.- Plain enclosure panels shall be provided for use with the equipment and turret enclosure frames. Panels shall be fabricated from 16 gauge CRS except the turret frame sloped enclosure panel. Holes or studs shall be provided and positioned to be compatible with panel mounting angles of the enclosure and turret frames. Nuts shall be provided to mount the panels to the frames as required by the equipment design. All necessary mounting hardware shall be supplied with each closure panel. The following frame enclosure panels shall be provided:

Turret frame-sloped enclosure panel- This panel shall be #6061-T6 aluminum 3/16 inches thick

Enclosure frame-rear enclosure panel- One per console module

Turret frame-rear enclosure panel- One per console module

3.1.10 Cowlings and trim.- When cowling or trim strips are required by the console configuration to complete the installation of the sub-assemblies on order, they shall be provided by the contractor and shall be equal to the components on order in regards to material, construction and finish.

3.2 Finishes.- All handles and hinges used on doors shall be finished with copper, nickel or chrome plating. Screws on the outside surface shall be nickel plated; all others shall be cadmium plated. Steel parts are to be coated with a primer and baked enamel. The quality of the enamel and method of application shall provide a coating that will resist abrasion, chemicals, solvents, alkalies and be weather resistance. The finish shall conform to standard FAA-STD-001.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for testing.- All inspections and tests specified herein shall be performed at the contractors' plant (at one location in the continental United States). Unless otherwise specified, all tests shall be made by the contractor and may be witnessed by an FAA representative. The contractor shall make available for Government inspection all hardware, enclosure panels, frames or other components of the console to be delivered under the contract, if so requested by the Government. The Government reserves the right to waive witnessing any portion of the inspection; in lieu thereof, the contractor shall furnish certified test data for each console showing compliance with the specification requirements. The contractor shall furnish all facilities and test equipment necessary for factory tests.

4.2 Factory inspection and tests.- Each console component and accessories furnished under the contract shall be inspected and tested to demonstrate compliance with all of the requirements.

5. PREPARATION FOR DELIVERY

5.1 General.- Equipment preservation, packaging and packing shall be in accordance with MIL-P-116E, as specified herein and by the procurement document.

5.2 Preservation and packaging.- Preservation and packaging of the equipment shall be sufficient to afford adequate protection against corrosion and physical damage during shipment and limited indoor storage. All loose hardware specified in section 3 shall be packaged in cartons and attached to the applicable sub-assembly. The manufacturer shall provide and enclose written instructions for assembling component sub-assemblies into the final configuration. Following items shall be individually packaged:

(a) Each console module assembled with front, top and back enclosure panels and door

(b) One each right and left hand end panel

(c) Each shelf unit

(d) Assembled base and turret

5.3 Packing.- Assemblies and sub-assemblies shall be packed in containers acceptable by common carrier and which will insure safe delivery at destination in a satisfactory condition at the lowest applicable rate.

5.4 Marking.- Shipping containers shall be marked in accordance with MIL-STD-129D. Each unit package shall be marked as follows:

Low Profile Modular Air/Ground Console
Manufacturer's Name
Contract Number
Name of part, assembly, or component
Manufacturer's Part Number

6. Notes

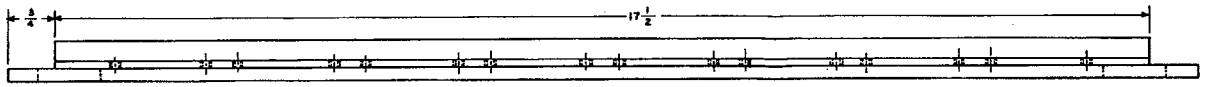
6.1 Ordering data.- The invitation to bid or contract shall specify the dimensions of the console frames. (See paragraph 3.1)

* * * * *

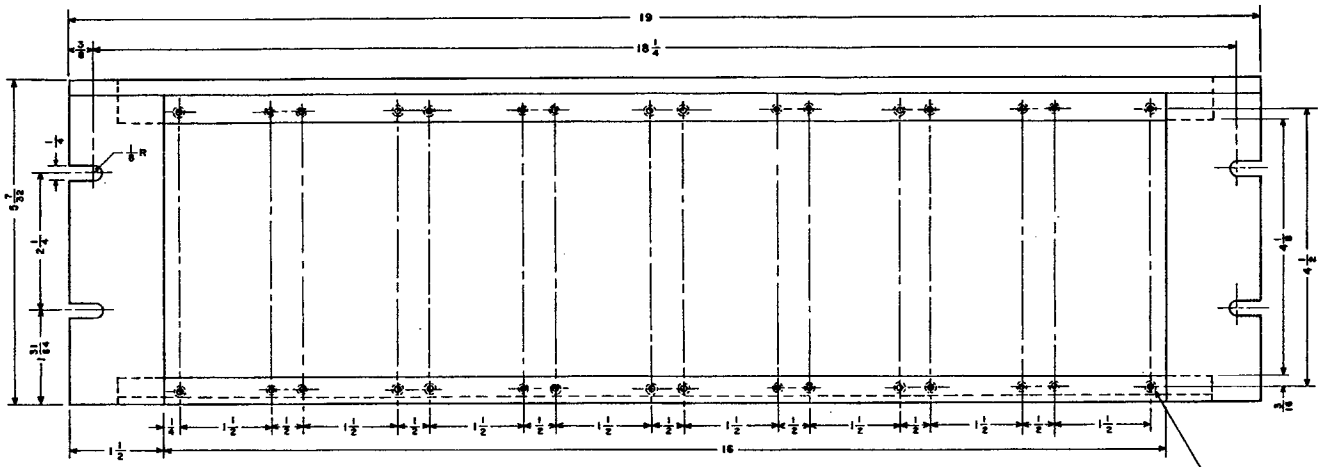
ATTACH:
For Fig. 1 see page 9
Drawing D-40030-32-A

NOTES:

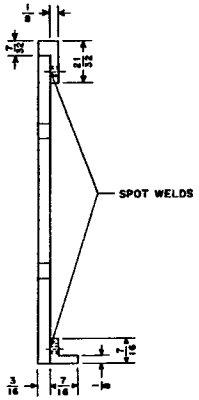
1. MATERIAL: STEEL
2. ALL DIMENSION SHALL BE ACCURATE WITHIN ± 1/64 EXCEPT THAT NO ACCUMULATIVE TOLERANCE IS ALLOWED.



TOP VIEW



FRONT VIEW



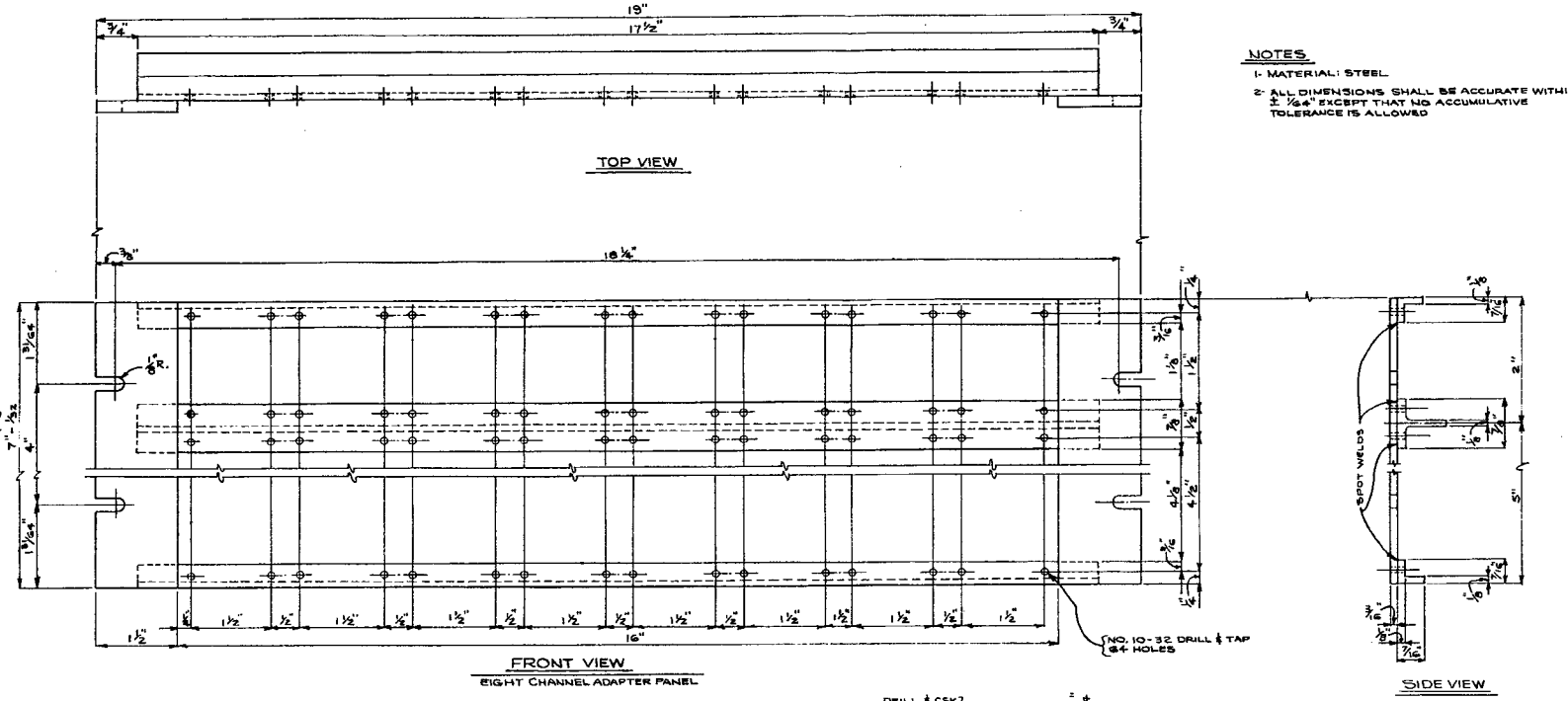
SIDE VIEW

REV	REVISION	DATE	BY
A	REVISED TO FIT 2" PANELS	9-4-59	S.M.F.

FEDERAL AVIATION AGENCY
BUREAU OF FACILITIES
COMMUNICATIONS ENGINEERING DIVISION

AIR GROUND CONSOLE
FOUR CHANNEL ADAPTER PANEL

DWN	CHKD	SUBMITTED	APPROVED FOR CHIEF OF DIVISION
S.M.F.	GMB JMC	C.C.W.	
DATE 1-22-59			DR-D-40030-32-A



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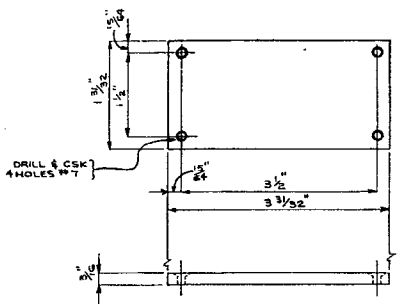

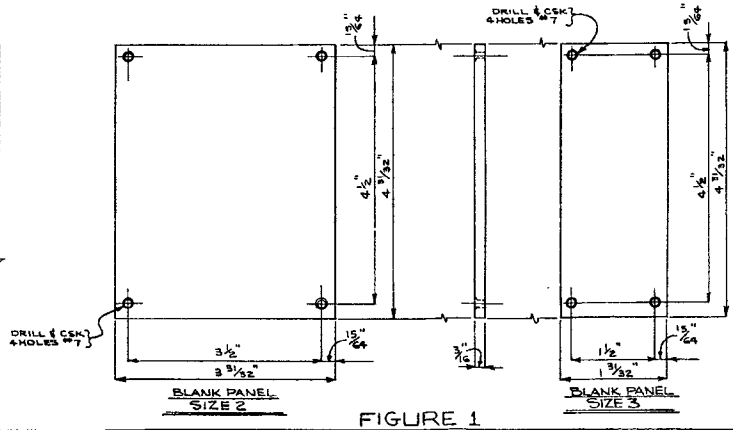

FIGURE 1